



## PreEngineering

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Credit: 0.50

[Course Preface](#)

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### Course Description

Engineering scope, content, and professional practices are presented through practical applications. Students in engineering teams apply technology, science, and mathematics concepts and skills to solve engineering design problems and innovate designs. Students research, develop, test and analyze engineering designs using criteria such as design effectiveness, public safety, human factors, and ethics.

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### Core Standards of the Course

#### Standard 1

Nature and Scope of Engineering

##### Objective 1-1

Purpose

##### Objective 1-2

Career Paths

- Engineering Paths
- Related Paths

##### Objective 1-3

Ethics

#### Standard 2

Creative problem solving and the Design Process

##### Objective 2-1

Problem-solving steps & procedures

##### Objective 2-2

Prototyping & production

##### Objective 2-3

Safely & effectively use tools & equipment

#### Standard 3

## Communication Skills

### Objective 3-1

Teaming & individual problem solving

### Objective 3-2

Drawing delineation (language)

### Objective 3-3

Creation and Presentation of Portfolio

## Standard 4

Application of Technology, Science & Math

### Objective 4-1

Complete Design Brief Activity(ies)

- Suggested Activities
  - “Flying Stick” Airplane
  - TSA Activities
  - Sumo-Bots & Junkyard Wars
  - CIM/Automated Workcell
  - Bridge
  - Aquaculture
  - Electric car
  - Catapult
  - Artificial Intelligence



<http://www.uen.org> - in partnership with Utah State Office of Education (USOE) and Utah System of Higher Education (USHE). Send questions or comments to USOE Specialist - [Melvin Robinson](#) and see the [ATE/Technology & Engineering Education Home Page](#). For general questions about Utah's Core Curriculum contact the Director - [MARY SHUMWAY](#) email: [mshumway@usoe.k12.ut.us](mailto:mshumway@usoe.k12.ut.us)

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